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ALAMEDA POINT
SSIC NO. 5090.3

STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, *Governor*

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

SION 2
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November 23, 1993

Mr. Gary Munekawa
Code 1811
Naval Facilities Engineering Command
Western Division
900 Commodore Drive
San Bruno, California 94066-2402

Dear Mr. Munekawa:

DRAFT FOLLOW-ON FIELD SAMPLING PLAN, REMEDIAL INVESTIGATION/ FEASIBILITY STUDY PHASE 2A, NAVAL AIR STATION, ALAMEDA

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) and the San Francisco Bay Regional Water Quality Control Board (RWQCB) have reviewed the Draft Follow-On Field Sampling Plan for Phase 2A of the Remedial Investigation/Feasibility (RI/FS) Study. The following are the comments of the DTSC and the RWQCB.

GENERAL COMMENTS

1. The FSP does not include soil sampling during the installation of monitoring wells. Soil sampling should be part of the installation of all monitoring wells.

2. Regional groundwater flow directions are shown in figure 2-3. However, hydrogeologic information currently available is not complete enough to make positive conclusions as to the actual groundwater gradients at the sites. The follow-on field sampling work must generate the information necessary to improve confidence in the regional groundwater gradient model. The model should consider groundwater head measurements as well as subsurface geology, preferential pathways, seasonal variations, and tidal influence.

3. Four Cone Penetrometer Test (CPT) points are planned for almost every site without regard for how large the site is. This means that at some of the larger sites CPT points will be between 600 and 800 feet apart (e.g. Site 3, the Abandoned Fuel Storage Area, and Site 10B, Missile Rework Operations). This spacing is too far apart to accurately detect any heterogeneities in the Bay Mud layer, and to see if this layer is indeed acting as a complete aquitard. A more complete understanding of the Bay Mud layer will in turn allow better placement of deeper wells to sample the second aquifer. CPT points should be placed no more than 300 feet apart.

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4. The sampling of the storm drains is included at each site. Sampling should include air monitoring and water samples.

SPECIFIC COMMENTS

1. **Section 3.6.1, Soil Sampling**

   Only one boring (B03-04) will be located along the sanitary sewer line where floating product and contamination was observed. More investigation is needed along the sanitary sewer line. Three to four borings should be located along the length of the sewer line where fuel was observed. That length runs from NSP-S03-03 north to past OW-14.

2. **Section 3.6.1, Soil Sampling**

   The sanitary sewer line that runs from NSP-S03-05 west should be investigated for potential soil contamination. The sewer line may be acting as an conduit for contamination. The 25,000 µg/L benzene soil gas concentration appears to follow the length of this sanitary sewer line.

3. **Section 3.6.1, Soil Sampling**

   Analysis should include Semi-Volatile Organics Compounds (SVOCs) in soil.

4. **Section 3.6.2, Cone Penetrometer Tests**

   More CPT points are needed at Site 3. Four CPT points are not enough to provide a representative sample of the lithology and hydrogeologic characteristics of the Bay Mud layer, which exists below a depth of 15 fee at Site 3. Four CPT points are also not enough to adequately identify the second water bearing zone in the vicinity of Site 3. On Figure 3-1, CPT points S03-02 and S03-03 are at least 600 feet apart, and points S03-04 and S03-01 are at least 800 feet apart. Please refer to General Comment #3.

5. **Section 3.6.3, Shallow Monitoring Wells**

   The two additional monitoring wells currently proposed for Site 3 are not sufficient to adequately characterize groundwater contamination and the potential for floating product. A monitoring well is requested between the sewer line and the grass apron of site three. This location is requested because the trench for the sewer line may be dispersing the product, therefore, a monitoring well is needed between the source of contamination and the sewer line. A monitoring well is also requested within the 25,000 µg/L Benzene soil gas isoline and near the railroad spur (approximately 200 feet west of M03-04).

6. **Section 3.6.3, Shallow Monitoring Wells**

Please describe the condition of the Wahler, Kennedy and Canonie monitoring wells. Include whether they can be used for groundwater chemical analysis.

7. **Section 3.6.3, Shallow Monitoring Wells**

Analyses should include SVOCs in groundwater.

8. **Section 4.6, SAMPLING OBJECTIVES, LOCATIONS, AND ANALYSES**

The sampling strategy seems to not take into account the distribution of soil gas and the potential for contaminated soil due to leaking fuel feed lines. Identifying the location of fuel lines should be an objective of the geophysical survey. Soil borings should be located in areas of greatest benzene gas contamination. Boring B7-13 should be moved west in order to be within the 50,000 µg/L benzene soil gas isoline. Boring 7C-14 should be located closer to soil gas sampling point P-2A, the location with the maximum concentration of benzene gas at 120,000 µg/L. An additional soil boring should be placed near soil gas sampling point O-5 in order to help define the extent of soil contamination.

9. **Section 4.6.1, Soil Sampling, first bullet**

How many borings are anticipated if the waste oil tanks are located? Is boring 7C-14 one of the borings for the investigation of the suspected waste oil tanks? When will these borings be drilled and how will the location for them be determined?

10. **Section 4.6.1, Soil Sampling, second bullet**

Analysis should included SVOCs in soil.

11. **Section 4.6.3, Shallow Monitoring Wells**

An additional monitoring well is required west of B547-9 to help define the extent of contamination on the western edge of Site 7C. The direction of groundwater flow is not well enough understood to neglect this area of potential contamination.

12. **Section 4.6.3, Shallow Monitoring Wells**

Analysis should include SVOCs in groundwater.

13. **Section 4.6.4, Deep Monitoring Wells**

Analysis should include SVOCs in deep monitoring wells.

14. **Figure 4-1, Proposed CPT and Sample Locations**

Please include the soil gas plume map for Site 7C (Figure 9-3, Soil Gas Survey, Data Summary Report Phases 1 and 2A, August 25, 1993) as a figure.

15. **Section 5.6, SAMPLING OBJECTIVES, LOCATIONS, AND ANALYSES**

The past investigations and the proposed follow-on investigation does not consider the location of industrial waste drains, industrial waste sewer lines, and the industrial waste treatment facility. Six floor drains directed methylene chloride and paint scraps to the industrial waste treatment facility. Currently all borings and proposed borings are outside the area of operation. Borings and monitoring wells should be located within building 410. The waste treatment facility includes several above ground tanks and a concrete sump. This facility must be fully investigated. Soil borings and monitoring wells are required in the area of the waste treatment facility. The sampling objectives stated in the FSP are not appropriate. The Navy should work closely with the State in developing a new sampling plan for Site 9.

16. **Section 5.6.3, Shallow Monitoring Wells**

Analysis of shallow groundwater should include Total Petroleum Hydrocarbons (both purgeable and extractable). Site 9 is close to the old oil refinery site, Site 13.

17. **Section 6.6.2, Cone Penetrometer Tests**

More CPT points are needed at Site 10B. Four CPT points are not enough to get a representative sample of the lithology and hydrogeologic characteristics of the Bay Mud layer, which exists below a depth of 15 feet at Site 10B. Four CPT points are also not enough to adequately identify the second water bearing zone in the vicinity of Site 10B. On Figure 6-1, CPT points S10B-01 and S10B-03 are at least 600 feet apart, and points S10B-02 and S10B-04 are at least 600 feet apart. Please refer to General Comment #3.

18. **Section 7.6 SAMPLING OBJECTIVES, LOCATIONS, AND ANALYSES**

The locations of borings and monitoring wells should reflect the previous locations of oil tanks, storage yards and other operations of the old oil refinery. The present locations of borings and the locations of proposed borings do not seem to relate to the operations of the old oil refinery. The Sanborn Map identifies where various operations were located. The Sanborn Map should be referenced when the locations of borings and monitoring wells are selected. A figure of the old oil refinery should be included in Section 7.6.

19. **Section 7.6.1, Soil Sampling**

The purpose of the follow-on Phase 2A field work is to provide final characterization of contamination at each site. The bullet item under Section 7.6.1 states, "To further evaluate..." If the Navy does not believe that the contamination at Site 13 can not be fully characterized through the follow-on field work, this should be stated.

20. **Section 7.6.3, Shallow Monitoring Wells**

Two additional wells are requested. One near BOR-6 and the other east of building 169. The purpose of these wells are to characterize the outer extent of contamination at Site 13.

21. **Section 9.6.3, Shallow Monitoring Wells**

Two additional shallow monitoring wells are needed to the southwest and the northwest of shallow well MWD13-2. Detected in Well MW 13-2 was 380 ppb of TRPH and 5000ppb of oil and grease in the groundwater. Since the assumed groundwater flow direction is unclear at the site, we need to have wells on all sides of MWD13-2 to describe the extent of the TRPH and oil and grease plume in the groundwater at Site 19.

22. **Section 12.0, Table 12-2 and 12-2**

Quantitation limits for some inorganics and benzene required by the CLP are not low enough to allow for comparison with Maximum Contaminant Levels in water and the RWQCB's Basin Plan. A separate letter is being sent to the Navy on this issue. Please refer to that upcoming letter and the comments on the RI/FS Work Plan Addendum for determining the proper laboratory method for sample analysis.

If you have any questions on these comments or require further assistance, please call me at (510) 540-3809.

Sincerely,

Thomas P. Lanphar
Project Manager
Base Closure Branch

cc: See next page

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